

THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590 October 26, 2001

The Honorable Edward J. Markey U.S. House of Representatives Washington, DC 20515-2107

Dear Congressman Markey:

This is in response to your letter of September 26, requesting information on the liquefied natural gas (LNG) unloading and storage facilities operated by Distrigas in Everett, MA. The enclosure provides detailed responses to each of your questions.

As you know, the U.S. Coast Guard (USCG) issued an order on September 26 denying entry of the LNG Carrier Matthew because a Unified Command determined that there were credible incident scenarios that could overwhelm the Unified Command's capability to respond. The Unified Command included the U.S. Coast Guard, Massachusetts Emergency Management Agency (MEMA), Massachusetts State Police, Distrigas, and several local emergency response organizations.

The U.S. Department of Transportation (DOT) houses the Research and Special Projects Administration (RSPA) and the USCG, which are our two agencies responsible for the safe transportation and storage of LNG. RSPA's Office of Pipeline Safety (OPS) is responsible for safety, security, and environmental protection regulation and inspection of LNG storage facilities. The USCG is responsible for safety regulation and inspection of LNG ships and marine facilities for unloading LNG into storage facilities.

Since the September 11 terrorist attacks, Distrigas has substantially increased the security at its terminal, including additional police presence and facility staffing. Distrigas, working with the USCG, RSPA, MEMA, the Boston Emergency Management Agency (BEMA), and state and local law enforcement authorities have developed additional security plans.

DOT will continue to work closely with the LNG facility operator, in coordination with the other federal, state, and local stakeholders, to ensure compliance with the security regulations.

If my office can be of further assistance, please let us know.

Sincerely yours,

Norman Y. Mineta

Enclosure

Enclosure Responding to General Questions Posed

Question 1 - Has there ever been any verified terrorist threat against an LNG facility, either in the U.S. or abroad?

Answer: Not to our knowledge.

Question 2 - How many federal, state and local agencies have significant elements of the responsibility for the security of transportation of LNG to the storage facility and for the storage facility itself? Please describe the roles of each agency. Of these, who is in charge of security? Do you believe there exist adequate resources to conduct these activities? If not, please describe what would be required to do so.

Answer: Several U.S. Department of Transportation (DOT) agencies have responsibility for transportation and storage of LNG. RSPA's Office of Pipeline Safety (OPS) is responsible for safety, security, and environmental protection regulation and inspection of LNG storage facilities. RSPA's Office of Hazardous Materials Safety (OHMS) is responsible for safety regulation of LNG tank trucks. The USCG is responsible for safety regulation and inspection of LNG ships and marine facilities for unloading LNG into storage facilities. The Department of Energy's (DOE) Federal Energy Regulatory Commission (FERC) has responsibility for LNG facility siting, environmental impact, construction authorization, and for issuing certificates for import and export of LNG.

The Distrigas storage facility is under the regulatory authority of RSPA. RSPA has certified most States to participate in the Federal pipeline safety program under 49 USC § 60105. Many State utility regulatory agencies and State fire marshals have primary responsibility for safety inspection of intrastate LNG facilities. These include LNG facilities supplying gas to local gas systems for basic supply and peaking service and mobile LNG facilities for maintaining gas service during maintenance outages. The State agencies are free to impose more stringent regulations for intrastate LNG facilities, as long as these regulations do not conflict with the Federal regulations issued by RSPA

The USCG's authority to regulate waterborne transportation and the activities of waterfront LNG facilities derives from the Ports and Waterways Safety Act, 33 U.S.C. 1221-1232 (as amended by the International Maritime and Port Security Act of 1986 and codified at 33 U.S.C. 1226), and from the Magnuson Act, 50 U.S.C. 191 (as implemented by Executive Order 10173). The USCG is authorized to take action to prevent damage to or destruction of facilities and vessels, including LNG vessels, while in transit upon the navigable waters of the United States and while moored at a waterfront facility.

DOT's USCG and RSPA exercise separate and overlapping safety regulatory authority affecting LNG facilities adjoining the navigable waters of the United States. There are two sections of USCG regulations relating to LNG onshore facility security. Under a Memorandum

of Understanding between the USCG and RSPA, the USCG is responsible for establishing regulatory requirements for (1) facility site selection as it relates to management of vessel traffic in and around a facility and (2) all matters pertaining to structures or equipment (or portions thereof) located in the navigable waters and facilities located between the vessel and the last manifold (or valve) immediately before the receiving tank(s). The Magnuson Act provides wide latitude to the Captain of the Port and District Commander to regulate port activities, including waterfront facilities, to include actions to protect U.S. ports against acts of subversion or terrorism. RSPA is responsible for regulatory requirements from that manifold (or valve) up to and including the main elements of the storage facility.

For waterborne LNG transport into Boston prior to September 11, the USCG enforced a moving safety and security zone (defined in 33 CFR 165) for LNG vessels that transit the Boston North Channel and Boston Harbor and dock at the Distrigas Terminal in Everett. Prior to commencing the inbound transit from Broad Sound, a USCG Vessel Movement Officer is placed aboard the LNG vessel and is responsible for monitoring the transit and the Safety and Security Zone in conjunction with a USCG escort vessel. A pre-arrival inspection of the cargo area is also conducted before the vessel enters the inner harbor to ensure that the cargo containment is secure and that the cargo tanks are not venting to the atmosphere. Upon docking, the Immigration and Naturalization Service and U.S. Customs Service board the vessel to conduct their respective missions regarding the cargo and crew. A detachment of the Everett Fire Department is present at the terminal upon the vessel's arrival and remains there for the duration of the cargo discharge to first respond to a limited emergency situation.

The safety and security plan will require inbound and outbound escort of the LNG vessel and waterside security for the duration of the cargo transfer operations. As part of the vessel's Advanced Notice of Arrival, required 96 hours prior to arrival, a crew and passenger list must be submitted and will be analyzed by the USCG's Intelligence Coordination Center. Additional assets and tactics will be employed, the specifics of which change based on current information and planning improvements. The details of these tactics cannot be addressed here in the interest of operational security. In addition, close coordination, planning, and participation will be required by Federal, State, and local stakeholders. Research of studies and academic modeling/analysis is on going in an effort to fully understand the most likely consequences of a terrorist act.

Question 3 - How many federal, state and local agencies have significant elements of the responsibility for emergency response efforts in the event of an accident at or attack on LNG facilities? Please describe the roles of each agency. Of these, who is in charge of emergency response efforts? Do you believe there exist adequate resources to conduct these activities? If not, please describe what would be required to do so.

Answer: RSPA regulations (49 CFR § 193.2509) require LNG operators to have emergency procedures, including fire and security responses, and require that each operator of an LNG facility follow those procedures. RSPA's pipeline safety regulations require an operator to identify risks and to determine how each risk will be managed in an emergency. RSPA rules, among other things, require operators to respond to controllable and uncontrollable emergencies and take actions to minimize harm to public and personnel, including prompt notification of appropriate local officials of the emergencies and possible evacuation of the public in the vicinity of the LNG plant. Under § 193.2519, LNG facility operators are required to have an emergency communications system. In addition, § 193.2909 requires operators to maintain secure communications between plant security personnel and law enforcement officials and to provide for direct communications between all on-duty personnel having security duties and all control rooms and control stations. LNG facility emergency and security personnel must work with local fire, police, and environmental agencies to respond to an LNG emergency.

Safety and security regulations for ships transporting LNG to storage facilities are the responsibility of the USCG. As a unit of DOT, it is responsible for the design, operations, and maintenance of LNG ships in U.S. waters. It has authority to stop, search, and detain persons violating the law in U.S. waters

Although the USCG has the ultimate authority to determine whether to deny an LNG vessel entry in the interest of safety to the port, public, or marine environment, the Unified Command is comprised of various stakeholders, including the DOE, MEMA, Massachusetts Office of Public Safety, BEMA, Everett Fire and Police Departments, Boston Fire Department, Massachusetts National Guard, and Distrigas. The Everett Fire and Police Departments have primary responsibility for onshore response to an accident or attack at the Distrigas Terminal. The USCG would respond from the waterside and would work to rescue personnel, contain the situation, and control traffic.

DOT agencies work with MEMA, BEMA, and local police and fire authorities to develop emergency response plans for the Distrigas terminal. Since the September 11, incident, these agencies and DOE's Department of Security Operations have been working to develop additional security plans for the future. Distrigas has also hired Lloyd's Register to perform a safety analysis on ship movements and potential impacts if a ship was attacked in the Boston Harbor. Furthermore, Quest Consultants, Inc., has been hired by DOE to perform studies related to security on vessels transporting LNG and on the onshore LNG storage tanks.

Question 4 - I understand that the Coast Guard issued an order that requires Distrigas to postpone the docking of a tanker carrying LNG that was planned for this week. Was this order given because of a specific known security threat to the tanker or storage facility? When do you anticipate that it will be safe for the tanker to make its delivery?

Answer: On September 26, the USCG ordered Distrigas to postpone the docking of a tanker ship carrying LNG. The order was given in response to concerns raised by State and local officials, not a specific security threat. On October 12, 2001, USCG lifted its ban on LNG vessels in Boston Harbor, in consultation with other members of the Unified Command.

Question 5 - I have been informed that Distrigas has had a good safety record over the years. Is this true, and in light of the events of September 11, are there any areas where the Department would recommend changes in safety practices and procedures?

Answer: Since 1995, DOT pipeline safety inspectors have completed three major inspections of the Distrigas facilities. The on-site inspections were performed on December 18-19, 1995; November 5-7, 1996; and April 20-22, 1999.

The enforcement records maintained by RSPA show that inspections revealed issues relating to maintenance records, procedures, training records, and drug and alcohol testing of employees. All of these issues were resolved to our satisfaction. The Distrigas plant has experienced only one reportable incident, which involved a minor gasket failure and release of LNG in March, 1988, and did not result in a fire or any injuries.

Question 6 - Please describe the emergency response plan in the event that an accident or deliberate attack cause the release of LNG as it passed through Boston Harbor and arrives in port at the Everett terminal. Please also describe the potential consequences of such an event.

Answer: DOT requires three plans that address the release of LNG from a vessel as it passes through Boston Harbor and arrives in port at the Everett Terminal:

- a) The USCG-required Cargo Manual on the vessel outlines safety and emergency procedures for the vessel to follow should there be a release of LNG. If the release of LNG causes a fire on the vessel, the Shipboard Fire Control Plan, as required by Safety of Life at Sea Convention 74/78 II-2/20, would cover any fire response on the vessel. The Master of any vessel is primarily responsible for any shipboard fire and would be supported by local fire departments.
- b) At the Everett terminal both the Everett Fire Department and the Distrigas Facility have plans in place for the release of LNG. The Distrigas Facility plan is titled "Safety Standards and Procedures Manual," and the Everett Fire Department Plan is titled "Contingency Plan in the Event of an Incident or Emergency at the Distrigas Corporation Terminal." Both manuals are required by RSPA pipeline safety regulations.
- c) For the communities along the waterway, MEMA requires the "Comprehensive Emergency Plan," a document that outlines emergency procedures for the community. Additionally, the community fire departments would have jurisdiction for their areas,

should an LNG release result in a fire. DOE commissioned Quest Consultants to perform a study to analyze the potential consequences of a release of LNG from a vessel calling on the Port of Boston. Distrigas also contracted with Lloyd's Register of Shipping to complete a report on "Explosion and Gas Release From LNG Membrane Carriers – Generic Consequence Assessment," as ordered by the USCG Captain of the Port.

Question 7 - 49 USC 601 states that "the qualifications applicable to an individual who operates and maintains a pipeline facility shall address the ability to recognize and react appropriately to abnormal operating conditions that may indicate a dangerous situation or a condition exceeding design limits." Please describe the standards in place to ensure that the operators of LNG transportation operations are able to recognize and react appropriately to both accidental leaks and terrorist attacks. How does DOT oversee and evaluate the continued ability of the operators to meet these standards? Do you believe these standards are adequate, in light of the events of September 11? If not, what changes will you be making, and when will they be completed?

Answer: Subpart H of the Federal LNG Safety Standards (49 CFR Part 193) prescribes qualification and training requirements for LNG plant personnel involved in design, construction, installation, inspection, testing, operations, maintenance, fire protection, and security. All personnel and supervisors must demonstrate competence by training or experience in performing these critical functions. RSPA's periodic inspections of the Distrigas facility include inspection of records and interviews with personnel to ensure compliance with these requirements.

Question 8 - What on-board and on-shore security measures are in place to ensure that the safety of the transport is not threatened by ground- or sea-based attacks as it arrives in port? What security measures ensure the safety of the LNG as it arrives in port? What security measures ensure the safety of the LNG as it is being transported to the storage facility? Do you believe these standards are adequate, in light of the events of September 11? If not, what do you believe should be changed?

Answer: Since the September 11, incident, Distrigas has substantially increased security at the Everett LNG terminal and has worked closely with local police and fire officials. Distrigas is also working with the USCG, DOE, State and local governments, and law enforcement authorities to ensure the safety of ship movements through the harbor.

The USCG has established a Regulated Navigation Area for the port and Security Zones for specific facilities, including Distrigas. Enforcement of that security zone is accomplished with USCG, State of Massachusetts, and local law enforcement agencies working together under a Unified Command concept. These integrated security measures are designed to address land, ground, air based, and waterborne attacks as available resources allow and specific threat intelligence supports.

RSPA prescribes requirements for security at LNG terminal facilities at 49 CFR §§ 193.2901 - .2917. RSPA regulations address protective enclosures, including the type required and construction standards. The regulations also require security communications, security lighting, security monitoring, alternative power sources, warning signs, and the positive identification of all persons entering the plant with methods at least as effective as picture badges.

Question 9 - 49 USC 601 states that "the operator of a pipeline shall ensure that employees who operate and maintain the facility are qualified to operate and maintain the pipeline facilities." Please describe the qualifications necessary to be employed at LNG transportation activities. Do prospective employees (U.S. citizens and foreign nationals) undergo both periodic criminal background checks to ensure that they have not committed any crimes within the U.S., and periodic background checks to ensure that they have no connection to domestic or foreign groups who might seek to pose a threat to the U.S.? If not, why not?

Answer: RSPA's requirements for operator training and qualification are described in my response to Question 7. It is incumbent on the operator of the LNG facility to be able to demonstrate to DOT and State inspectors the ability of each individual, whether employed by the LNG facility operator or a contractor, to perform safety and security related operations and maintenance activities in a safe and competent manner. The operator can demonstrate its compliance through an established program of training and testing. The LNG facility operator can require background checks of current or prospective employees.

Question 10 - Does the FAA currently restrict air space during the arrival at port and transport of the LNG to the storage facility? If so, how? If not, why not? In the aftermath of the September 11 attacks, have there been changes in flight restrictions relating to the LNG facility at Everett?

Answer: The Federal Aviation Administration (FAA) has placed Special flight restrictions on the entire Boston area Class B airspace, now termed Enhanced Class B Airspace which limits Visual Flight Rules (VFR) aircraft from flying within, and requires strict adherence to Instrument Flight Rules (IFR) protocols on approaches to Logan International Airport (BOS). Every aircraft flying into or out of the area must have an assigned discrete beacon code and each aircraft is monitored by FAA controllers. In addition, BOS favors certain runway configurations, which avoid this geographic area unless dictated by safety requirements or weather conditions.

Question 11 - Please describe the emergency response plan in the event that an accident or deliberate attack causes the release of LNG from the storage facility. What assurances do you have that federal, state, and local emergency responders have the resources and capabilities to effectively carry out this plan? If state and local resources and capabilities are inadequate, will the federal government take steps to provide the support needed to improve them?

7

Answer: RSPA regulations require LNG facility operators to take security measures as detailed in 49 CFR §§ 193.2901 - .2917. These regulations address the location and design of protective enclosures, security communications between security personnel and law enforcement officials, and direct communications between on-duty personnel and all control rooms and control stations. The regulations also require security monitoring, lighting and warning systems around the facility, and alternative power sources for these security systems. Warning signs and systems to prevent trespassing are also required.

The National Fire Protection Association (NFPA) 59A standard for LNG facilities, incorporated by reference in the pipeline safety regulations, requires that combustible gas detectors and low temperature detectors be located at places where an LNG release might occur and where LNG or low temperature gas vapor might accumulate. These detectors are constantly monitored in the facility control room. These detectors provide data to an alarm system that is displayed in the control room. The alarm levels are set just above the minimum detection levels and provide for automatic facility shutdown if a hazardous level is reached.

Onboard ship alarms are required by USCG regulations (46 CFR Parts 153-154 and 33 CFR parts 127, 160-169). In addition to the required instrumentation for leak detection, there is abundant normal process instrumentation, which will alert an operator to an abnormal condition, which may or may not be caused by leakage. Many areas of the LNG unloading and storage facility are monitored by video cameras or are visible to operators from the control room or the bridge of the LNG ship. In addition, the white cloud caused by an LNG release of any size is easily recognized by plant operations and security personnel.

Question 12 - 49 USC 60103 states that [with respect to] the minimum safety standards prescribed[,] the Secretary of Transportation may consider the: "1) kind and use of the facility; 2) existing and project population and demographic characteristics of the location; 3) existing and proposed land use near the location; 4) natural physical aspects of the location; 5) medical law enforcement, and fire prevention capabilities near the location that can cope with a risk caused by the facility; and 6) need to encourage remote siting." Please describe these standards as they relate to the safety of LNG storage facilities, particularly security measures designed to protect against an accident at or ground- or air-based attack on the facility located in Everett, MA. How does DOT oversee and evaluate the continued ability of the operator to meet these standards? Do you believe these standards are adequate, in light of the events of September 11? If not, what changes will you be making, when will they be completed?

Answer: RSPA regulations for LNG facilities (49 CFR Part 193) require operators to take actions to maintain safety and security of these facilities, including siting, design, construction, equipment, operations, maintenance, personnel qualification and training fire protection, and security.

The regulations incorporate by reference the latest edition of national voluntary technical standard NFPA 59A, the "National Standard for the Production, Storage, and handling of LNG," which was recently updated to improve safety and security of LNG sites. It is maintained by technical experts, including DOT representatives, under the authority of the NFPA, Quincy, MA.

This document describes in great detail the technical requirements for an LNG facility as they relate to design, construction, siting, and fire protection. The RSPA regulations go beyond the requirements of the standard. For example, security issues are addressed in Subpart J of the DOT regulations as described in our response to Question 11. All the safety requirements are designed to protect the personnel and public against any kind of danger, whether caused by equipment failure, natural disaster, fire or an attack on the facility.

The Distrigas LNG facility was constructed prior to 1980, prior to the establishment of the Federal pipeline safety regulations at 49 CFR Part 193. The plant is "grandfathered" in the sense that newer siting and construction requirements cannot be applied retroactively. However, the plant must comply with all other safety and security regulations

Question 13 - 49 USC 60103 states that the Secretary of Transportation should prescribe minimum operation and maintenance standards that consider: "1) the conditions, features and type of equipment and structures that make up or are used in connection with the facility; 2) the fire prevention and containment equipment at the facility; 3) security measures to prevent an intentional act that could cause a liquefied natural gas accident; 4) maintenance procedures and equipment; 5) the training of personnel in matters specified by this subsection; and 6) other factors and conditions related to the safe handling of liquefied natural gas." Please describe the standards that are in place to address accidents at or ground- or air-based attacks on LNG storage facilities, particularly the one located in Everett, MA. How does DOT oversee and evaluate the continued ability of the operators to meet these standards? Do you believe these standards are adequate, in light of the events of September 11? If not, what changes will you be making, and when will they be completed?

Answer: Several DOT agencies have responsibility for the transportation and storage of LNG. RSPA's OPS is responsible for safety, security, and environmental protection regulation and inspection of LNG storage facilities. RSPA's OHMS is responsible for safety regulation of LNG tank trucks. USCG is responsible for safety regulation, and inspection of LNG ships and marine facilities for unloading LNG into storage facilities.

RSPA's LNG regulations at 49 CFR Part 193, Subparts F and G, address operation and maintenance requirements, Subpart I and the NFPA 59A standard address fire protection requirements, and Subpart J addresses security requirements. The regulations apply to all existing LNG facilities that are connected to natural gas pipelines under RSPA jurisdiction, including those built prior to 1980, such as the Distrigas facility in Everett.

Since 1995, RSPA's pipeline safety inspectors have completed three major inspections of the Distrigas facilities. The on-site inspections were performed on December 18-19, 1995; November 5-7, 1996; and April 20-22, 1999. The enforcement records maintained by OPS indicate that the inspections revealed issues relating to maintenance records, procedures, training records, and drug and alcohol testing of employees. All these issues were resolved to our satisfaction. The Distrigas plant has experienced only one reportable incident, which involved a minor gasket failure and release of LNG. This March, 1988 incident did not result in a fire or any injuries.

Question 14 - 49 USC 601 states that "the operator of a pipeline shall ensure that employees who operate and maintain the facility are qualified to operate and maintain the pipeline facilities." Please describe the qualifications necessary to be an employee at a LNG storage facility. Do prospective employees (U.S. citizens and foreign nationals) undergo both periodic criminal background checks to ensure that they have not committed any crimes within the U.S., and periodic background checks to ensure that they have no connection to domestic or foreign groups who might seek to pose a threat to the U.S.? If not, why not?

Answer: As described in response to Questions 7 and 9, all individuals performing operations, maintenance, or security tasks at an LNG facility need to be qualified by training and tested to ensure they can safely and effectively perform their tasks. The LNG operator needs to be able to demonstrate these qualifications to RSPA and, as appropriate, State inspectors. LNG plant operators have a continuing duty to ensure that plant personnel are capable of safely and effectively performing their tasks.

Question 15 - Does the FAA currently restrict airspace above the LNG storage facility? If not, why not?

Answer: The LNG storage facility is within the enhanced class B surface area at BOS controlled by BOS Terminal Radar Approach Control (TRACON). The nature of this airspace would prohibit indiscriminate flights over the LNG storage facility.

Question 16 - The LNG facility in Everett, MA, is located adjacent to the Mystic Station electrical generation facility and connects to the Tennessee and Algonquin natural gas pipeline facilities. What would be the consequences of the spread of fire due to a fire or explosion at the LNG facility to the Mystic Station Facility and to the interconnected pipeline facilities? What measures are in place to ensure that any fire or explosion due to an accident at or attack on the LNG facility does not spread to these facilities, resulting in disruptions in national gas and electricity generation and transmission infrastructures? If no such measures are currently in place, why not, and what measures could be taken in the future?

10

Answer: The Distrigas LNG facility was constructed prior to 1980, prior to the establishment of the Federal pipeline safety regulations at 49 CFR Part 193. The plant is "grandfathered" in the sense that newer siting and construction requirements cannot be applied retroactively. However, the plant must comply with all other safety and security regulations.

Quest Consultants, an engineering firm, has been asked by DOE to perform a study to analyze the threat that could result from a five-meter diameter hole in an LNG tank on a vessel. Quest has performed some initial calculations to quantify the gas dispersion and fire scenarios that could follow a large release from the LNG storage tanks. The DOE intends to contract with a national laboratory to study the potential hazard in the event of a small projectile coming into contact with the onshore facilities. The results of these studies will be considered in any updates to Federal regulations governing plant security and LNG vessel operations.

Question 17 - Please describe the security measures in place to prevent an accident at or attack on pipelines that distribute LNG from the storage facility.

Answer: The Federal pipeline safety regulations at 49 CFR Part 192 require that all natural gas pipelines be buried or, if aboveground, protected from hazards that exist at that location. At buried facilities, there is a certain amount of resistance to security threats or attack. Periodic testing, monitoring, and pipeline patrolling are carried out to prevent and detect failures, including intrusion of unauthorized persons on the pipeline right-of-way. Aboveground pipeline facilities, such as valve and compressor stations, are required to be protected by fencing, berming, and engineered barriers to preclude trespassing and damage from vehicles. Many pipelines will also have intrusion alarms and site security procedures to prevent unauthorized access.

On October 5, a meeting on the Distrigas plant security was convened at the request of DOE's Director of Security Operations. The other attendees represented FERC, USCG, RSPA, and Volpe National Transportation Systems Center, Massachusetts Department of Telecommunications and Energy, Massachusetts Department of Public Utilities, MEMA, and various State and local law enforcement authorities.

The panel was queried about threat reduction measures at the LNG facilities and in the shipping channels, risk analyses performed in the event of threats, and mitigating circumstances in and around the facilities. The City of Everett Police Department provided a security protection plan to DOE's Director of Security Operations. DOE will review the plan and work with the Everett Police Department to enhance security in and around the plant. Currently, heavily armed Everett Police Department officers are stationed around the plant.

To improve security measures, DOE will work directly with the local law enforcement officials and Distrigas. MEMA will review the studies performed by Quest and develop a plan of action. RSPA will be involved in the review of the onshore plant protection security features.